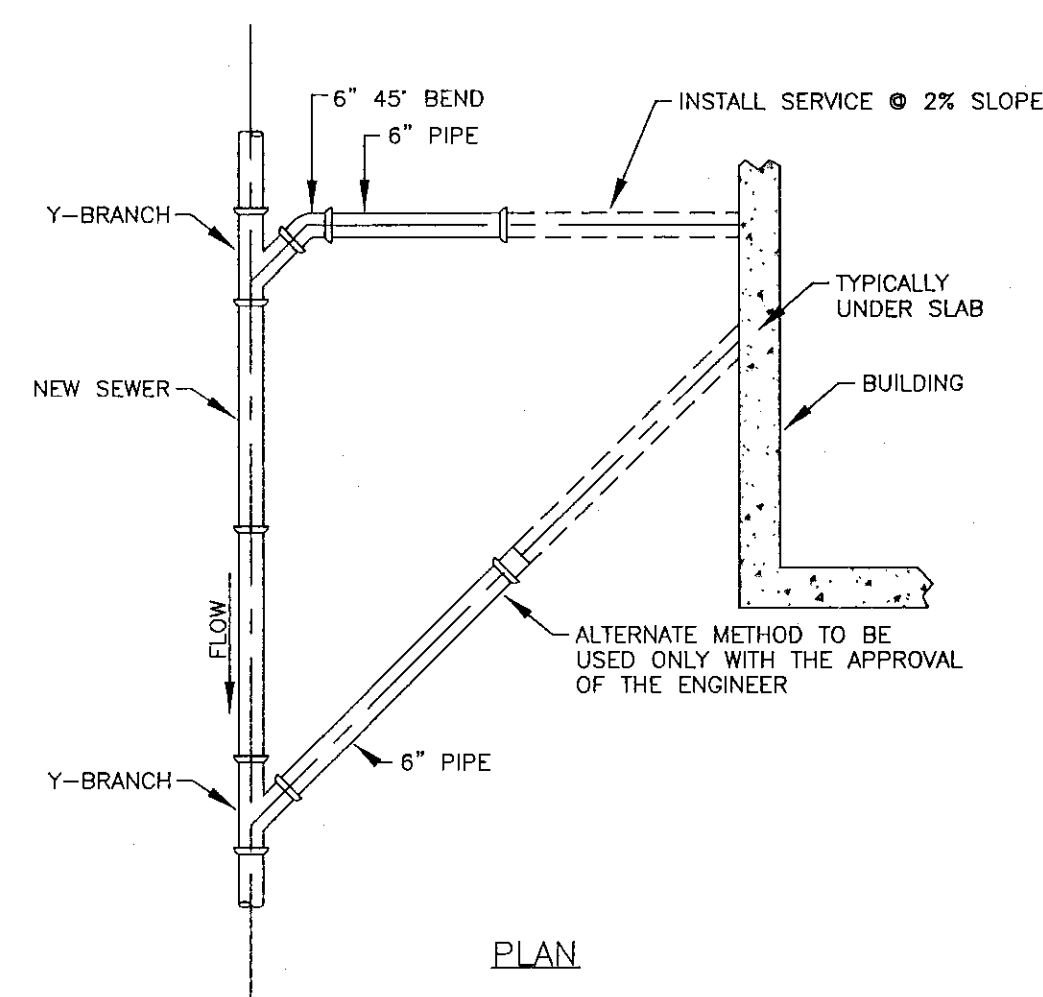
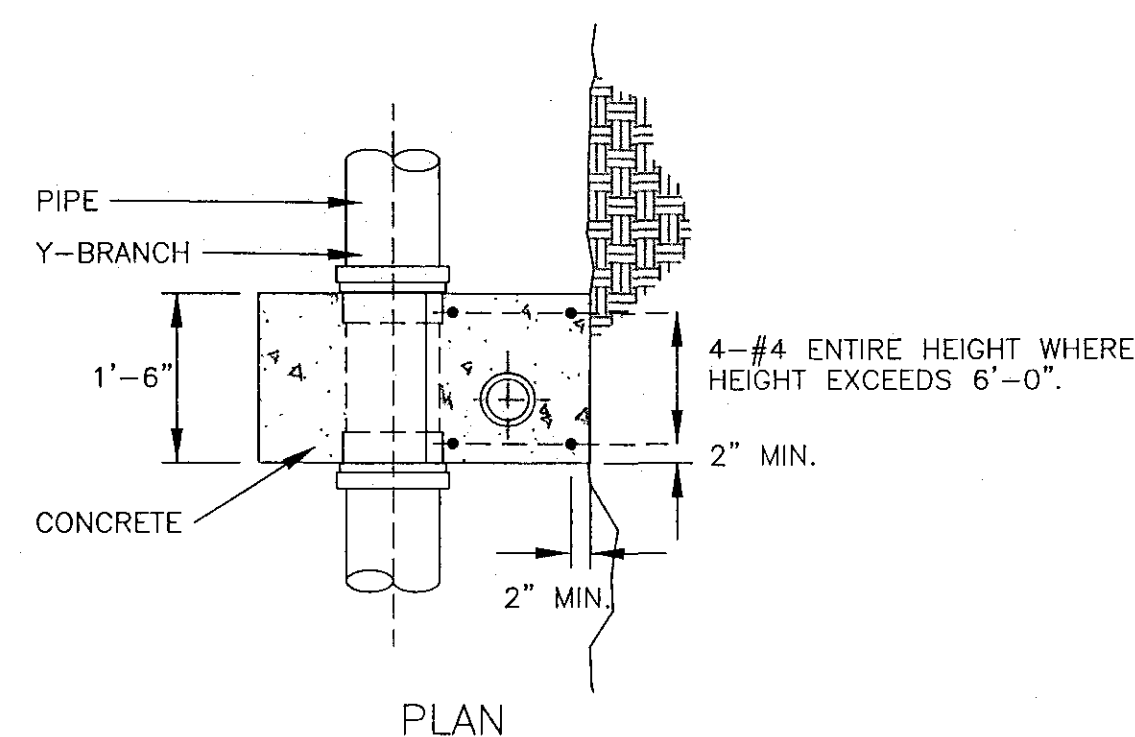


P.V.C. Y-BRANCH

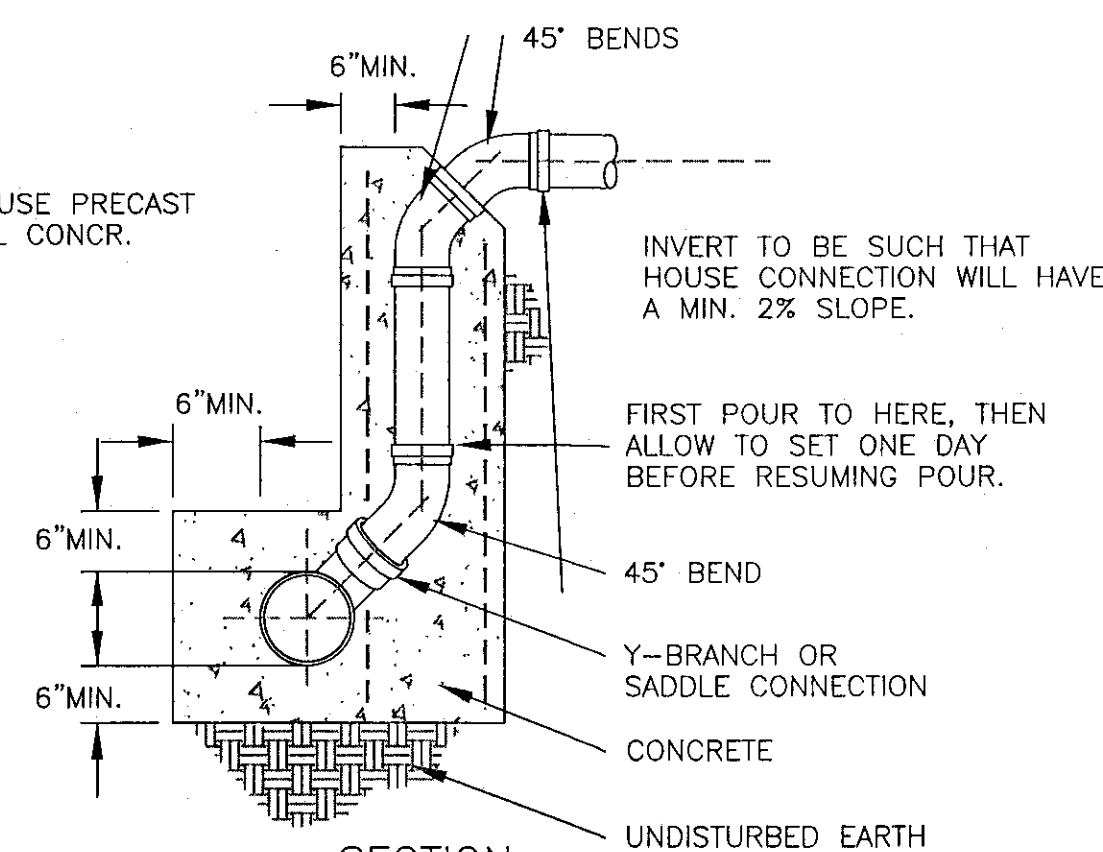


PLAN



PLAN

ALTERNATE: USE PRECAST UNIT BY L&L CONCR.



CHIMNEY DETAIL

MINIMUM STANDARDS FOR WATERTIGHT CONSTRUCTION FOR SEWER PIPING

Allowable infiltration or exfiltration should not exceed 200 gpd/inch-diam/mile of sewer. Leakage test shall be low pressure air testing.

Pressure testing should be performed by the owner after completion of construction, prior to startup and after one year of natural settling in order to ensure the watertightness of the affected collection systems, manholes and pump station wet wells.

Acceptable air testing procedures are presented in American Society of Testing and Materials Standard #C828-90T "Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe". In lieu of the Standard the following test procedure is acceptable.

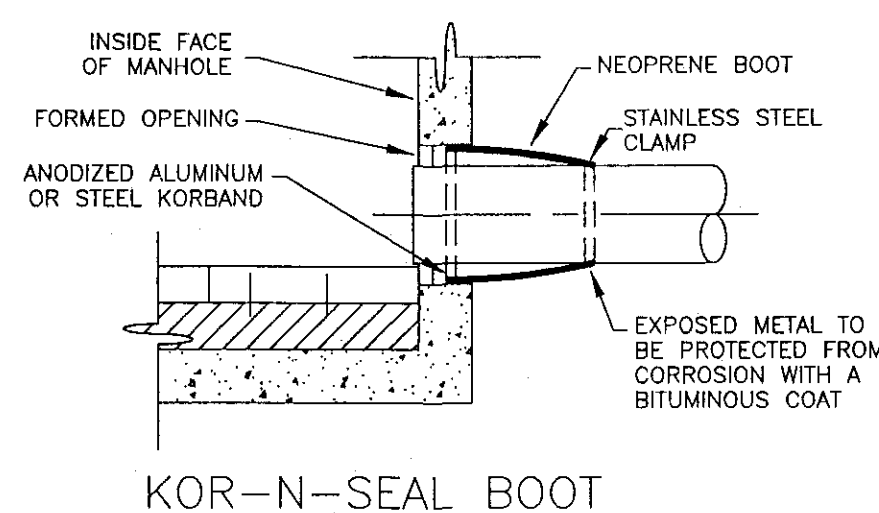
- 1) Plug all openings in the section of sewer piping to be tested.
- 2) Pressurize the system to be tested to an air pressure of 5 psig. Shut off the pressurized air source.
- 3) Allow the pressure to stabilize for a minimum of 5 minutes.
- 4) Record the stabilized pressure in the test section. Record the test start time. The minimum test pressure is 4 psig. The minimum test time is 5 minutes. At the end of the pressure testing time period, record the test pressure and the test termination time. If the pressure drop is greater than 1 psig during the duration of the test, the tested section has failed the test.

If the tests are failed, repairs must be made to the affected sewer pipe and retested.

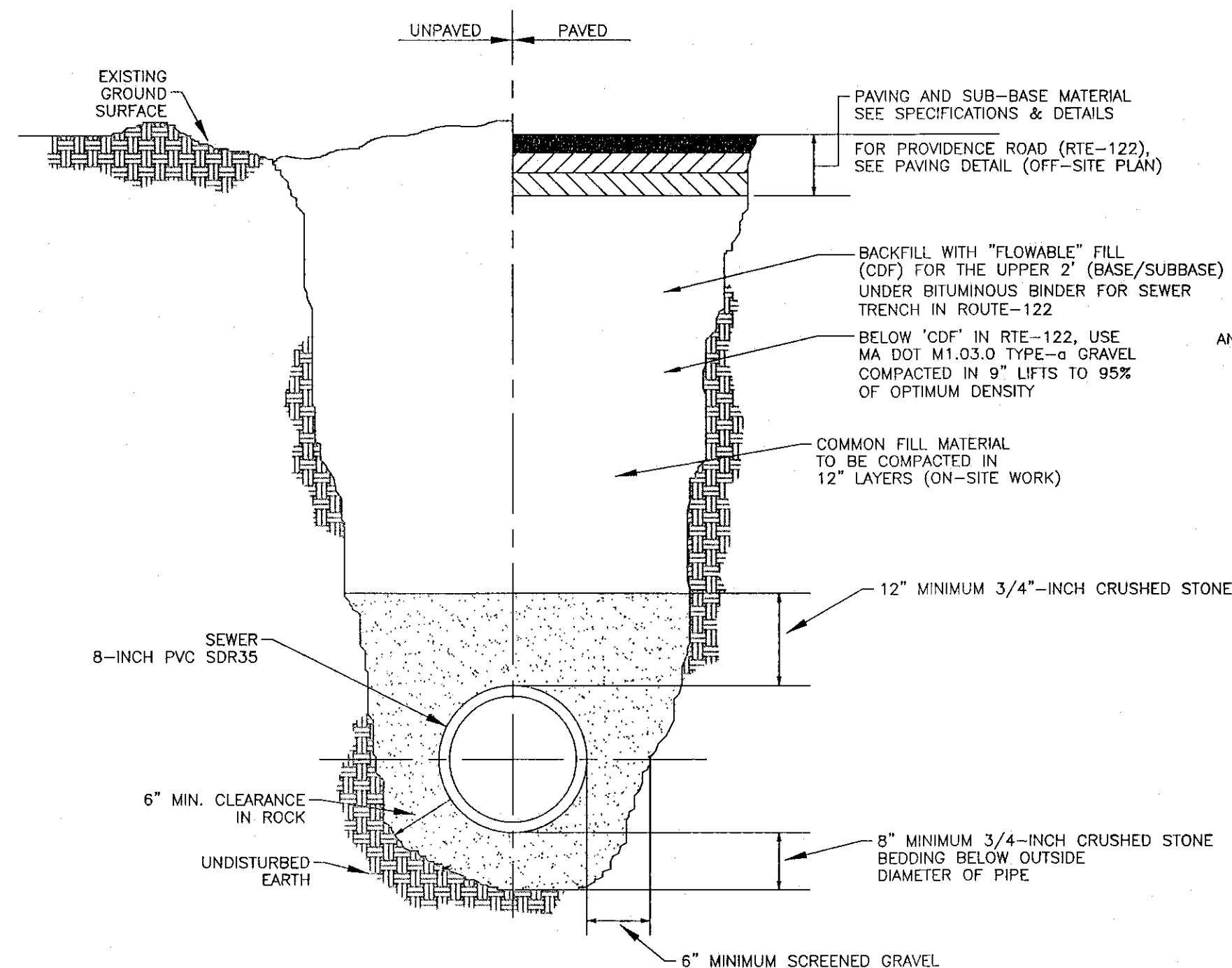
One copy of all the test results, certified by a Massachusetts registered professional engineer should be provided to the local sewer authority. That authority should keep those records for a minimum of 5 years by the sewer owner and should be made available to representatives of the reviewing authority upon request.

NOTES:

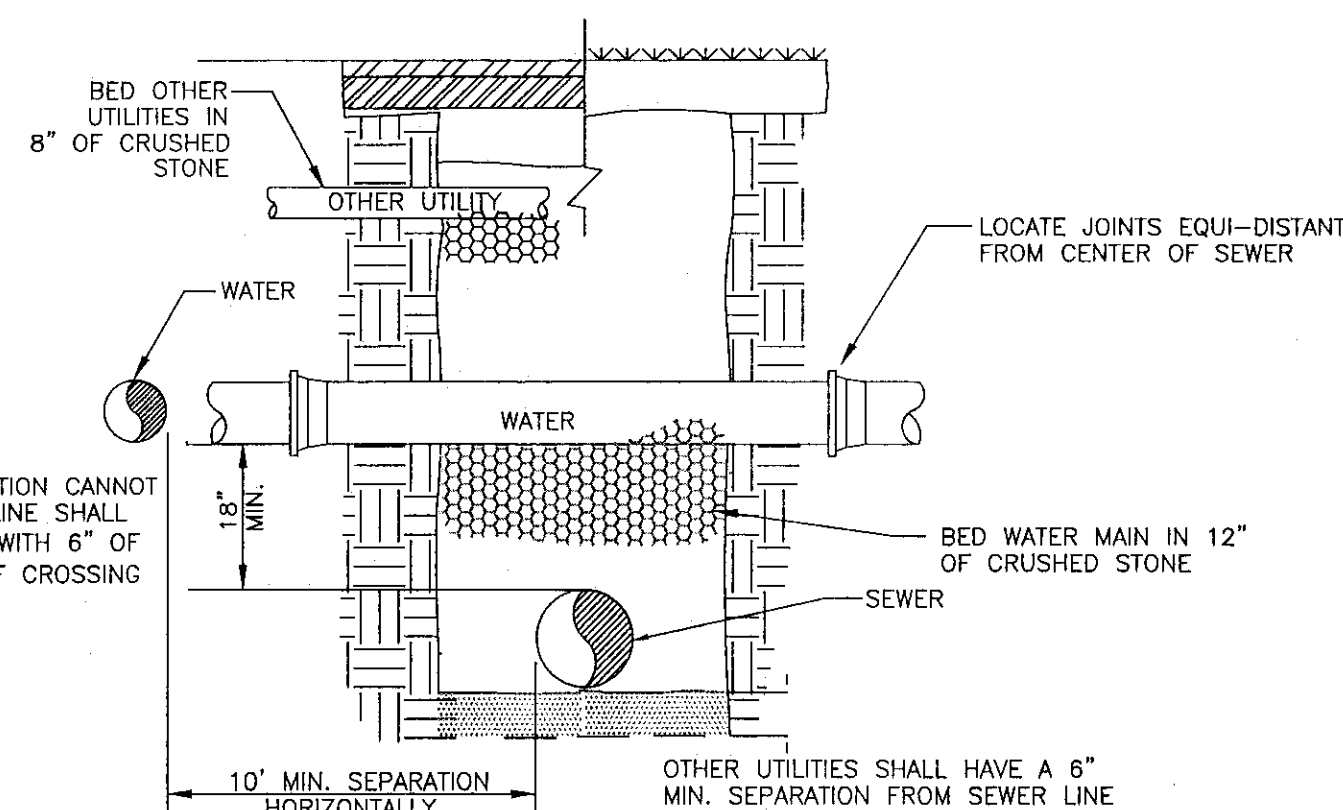
1. CONTACT DIG SAFE AND LOCAL UTILITIES FOR LOCATIONS OF BURIED UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. ALL SEWER CONSTRUCTION SHALL CONFORM TO THE STANDARDS ESTABLISHED BY THE TOWN OF GRAFTON SEWER DEPARTMENT. REFER TO CONTRACT #19 SPECIFICATIONS.
3. REQUIRED PERMITS AND LICENSES SHALL BE SECURED PRIOR TO THE START OF SEWER CONSTRUCTION.
4. A PIPE LASER MUST BE USED DURING ALL MAIN SEWER PIPE-LAYING TO ASSURE THAT THE PROPER SLOPE IS MAINTAINED.
5. NOTIFY THE TOWN OF GRAFTON SEWER DEPARTMENT PRIOR TO THE START OF CONSTRUCTION.
6. SEWER LINES SHALL BE MANDREL TESTED AND LOW PRESSURE AIR TESTED, AND MANHOLES VACUUM TESTED PER TOWN OF GRAFTON STANDARDS.
7. THE CONTRACTOR SHALL MAINTAIN RECORD LOCATION TIES OF SERVICE LATERALS.
8. MANHOLE FRAMES AND COVERS SHALL BE LEBARON LC-327 WITH "SEWER" CAST ON SURFACE.
9. MANHOLE STEPS SHALL BE GRADE 60 STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC.



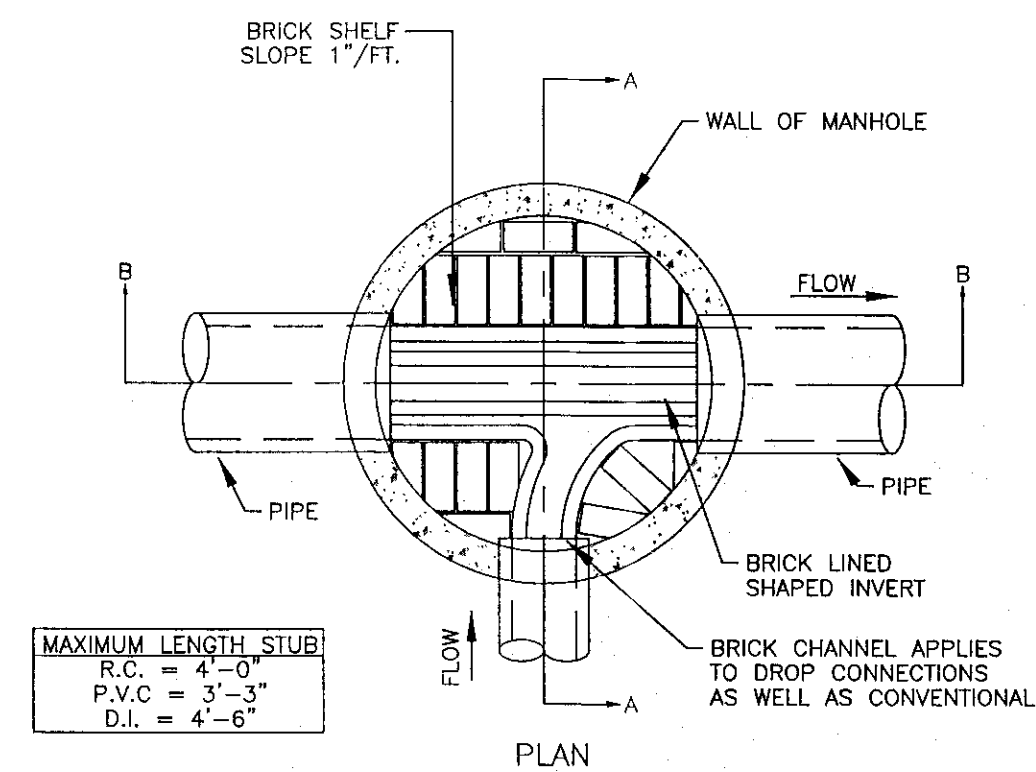
KOR-N-SEAL BOOT



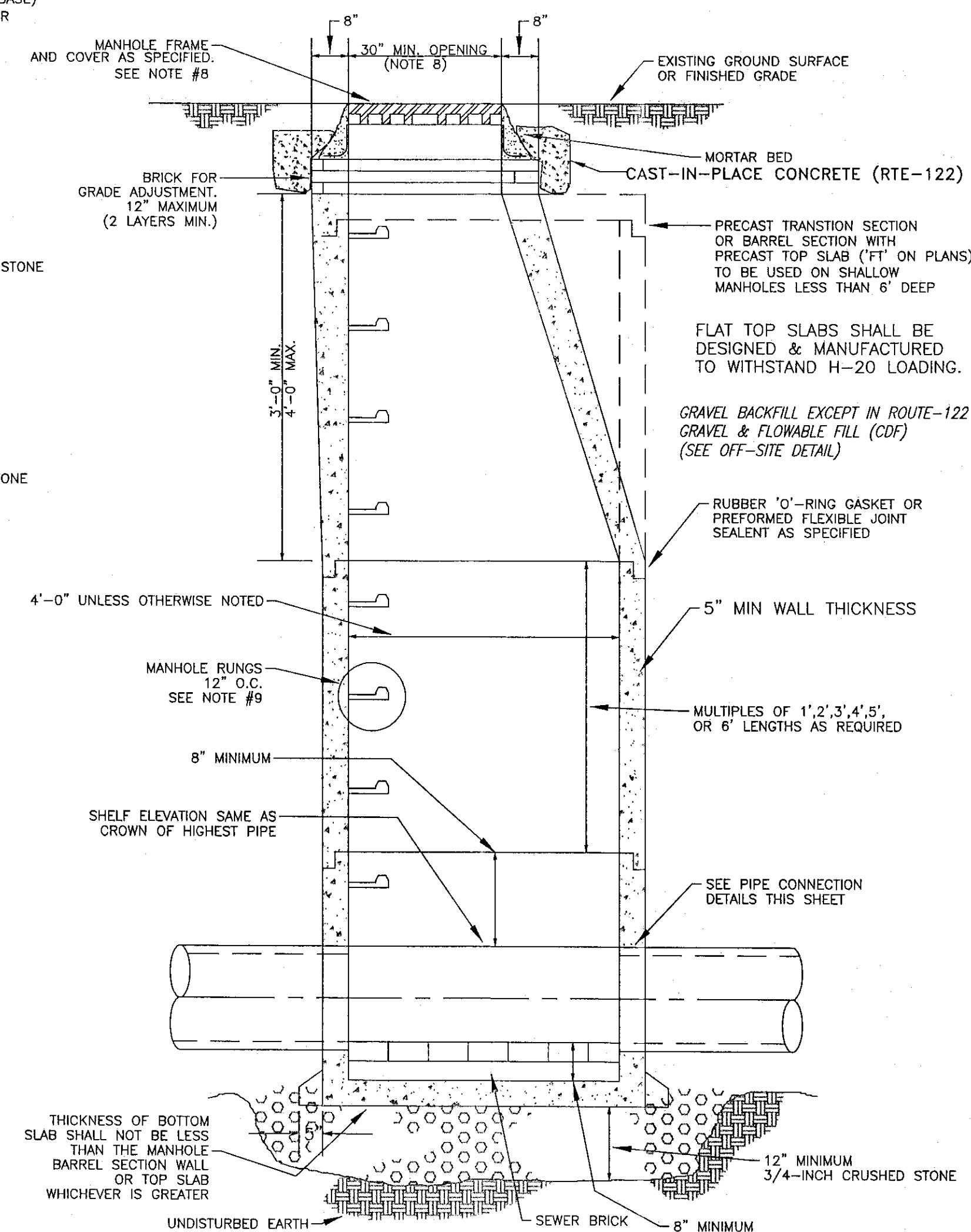
TYPICAL TRENCH DETAIL FOR SEWER PIPE



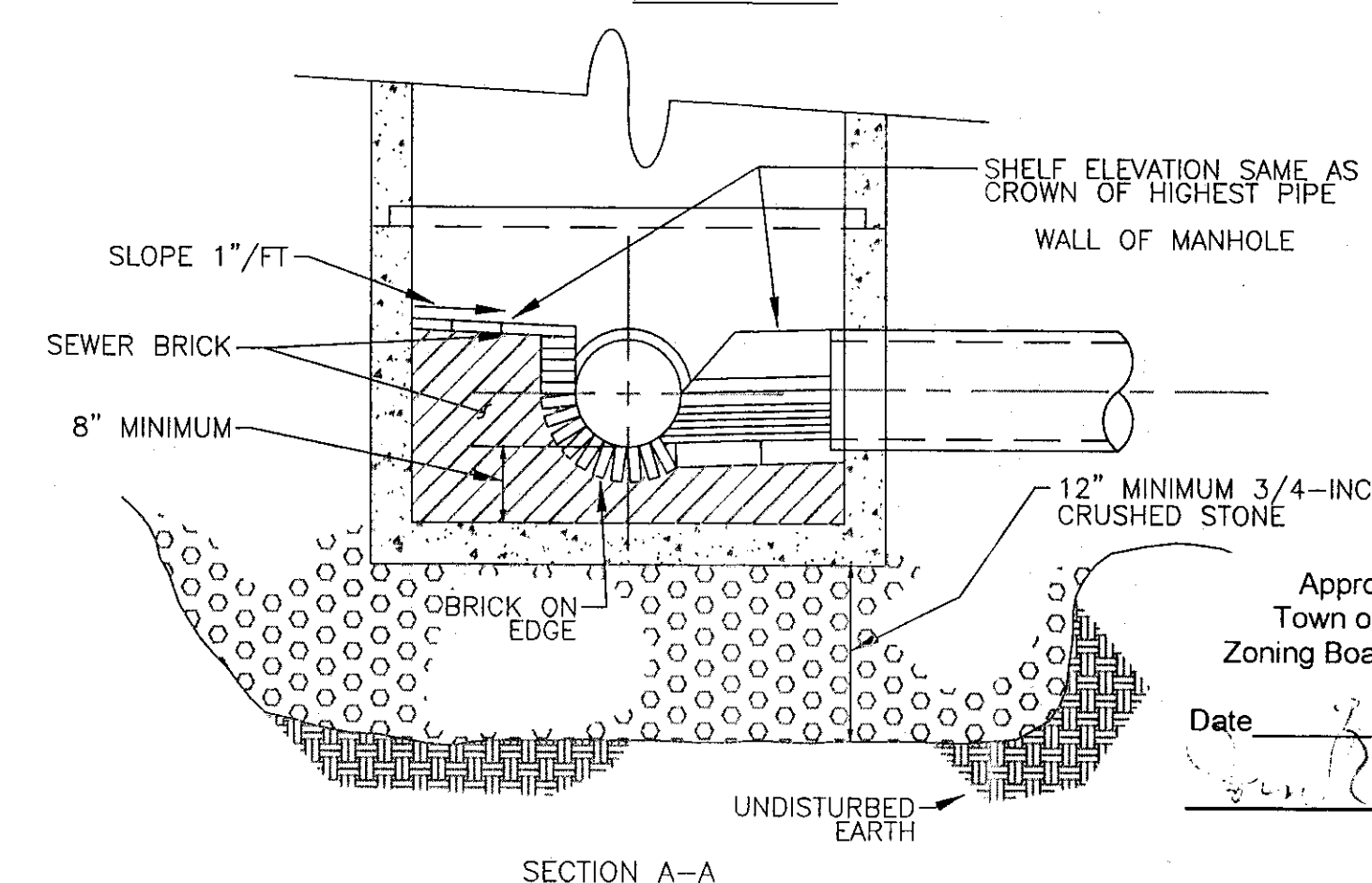
SEWER TRENCH UTILITY CROSSING (N.T.S.)



PLAN



SECTION B-B



SECTION A-A

TYPICAL PRECAST SEWER MANHOLE

REV. 8/1/12 FOR ZBA

(Ref. Comprehensive Permit WORD Bk.46010 pgs.1-37)